(19) World Intellectual Property Organization International Bureau



(43) International Publication Date 30 June 2005 (30.06.2005)

(10) International Publication Number WO 2005/060105 A1

(51) International Patent Classification7:

H03L 7/087.

(21) International Application Number:

PCT/IB2004/052671

(22) International Filing Date: 6 December 2004 (06.12.2004)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 03104685.7

15 December 2003 (15.12.2003)

(71) Applicant (for DE only): PHILIPS INTELLECTUAL PROPERTY & STANDARDS GMBH [DE/DE]; Steindamm 94, 20099 Hamburg (DE).

(71) Applicant (for all designated States except DE, US): KONINKLIJKE PHILIPS ELECTRONICS N. V. [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).

(72) Inventors; and

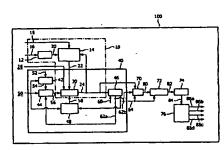
(75) Inventors/Applicants (for US only): MOEHLMANN, Ulrich [DE/DE]; c/o Philips Intellectual Property &

Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE). SZAJ, Andreas [DE/DE]; c/o Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).

- (74) Agents: VOLMER, Georg et al.; Philips Intellectual Property & Standards GmbH, Weisshausstr. 2, 52066 Aachen (DE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: CIRCUIT ARRANGEMENT AND METHOD FOR LOCKING ONTO AND/OR PROCESSING DATA, IN PARTIC-ULAR AUDIO, T[ELE]V[ISION] AND/OR VIDEO DATA



(57) Abstract: In order to further develop a circuit arrangement (100; 102; 104; 106) and a method of locking onto and/or processing data, in particular audio, T[ele]V[ision] and/or video data, by means of at least one phase locked loop (40), wherein phase information is detected by means of at least one phase detector (44), in particular following the arrival of at least one rising edge and/or falling edge of at least one analog input signal (50; 50), at least one increment (24) is determined by means of at least one loop filter (30), to which the output signal (56) which is output by the phase detector (44) is fed, and at least one ramp oscillator (46) is fed the increment (24) which is output by the loop filter (30), such that inter alia the circuit arrangement (100; 102; 104; 106) and the method for operating the same can be readily adapted to various requirements, it is proposed that the phase locked loop (40) is essentially digital, wherein the input signal (50, 50), in particular the phase of the input signal (50, 50) can be digitized by means of at least one time-to-digital converter (42), to which at least one system clock (52) is fed, the phase detector (44) is fed the output signal (54), in particular the additional phase information, of the time-to-digital converter (42) and also at least a first output signal (62a), in particular at least one status signal, of the ramp oscillator (46), and at least one frequency detector (48) is fed at least a second output signal (64), in particular at least one overflow pulse, of the ramp oscillator (46) and outputs frequency information (58) to the loop filter (30), which in particular is also assigned to at least one frequency locked loop (10).

京都の日本田田の 一般には おおいて 本田田の下